

[0074]

## CLAIMS

5       1. A transparent thin-film solar-cell module comprising a multilayer film comprising a first electrode layer, a semiconductor layer, and a second electrode layer stacked in that order on a main surface of a transparent insulating substrate; a cell region comprising a plurality of  
10      photoelectric conversion cells connected in series; and a plurality of light-transmissive aperture holes in the cell region, the plurality of light-transmissive aperture holes being formed by removing at least the second electrode layer, the light-transmissive aperture holes each having a diameter  
15      of 30  $\mu\text{m}$  to 500  $\mu\text{m}$ , the plurality of light-transmissive aperture holes being disposed in a line at a distance between the centers of the light-transmissive aperture holes of 1.01 to 2 times the diameter of each light-transmissive aperture hole.

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[0075]

2. The transparent thin-film solar-cell module according to claim 1, wherein the plurality of light-transmissive aperture holes are disposed in a straight line at intervals of 1.01 to  
25     1.5 times the diameter of each light-transmissive aperture hole.

[0076]

3. The transparent thin-film solar-cell module according to claim 1 or 2, wherein the light-transmissive aperture holes each have a diameter of 100  $\mu\text{m}$  to 300  $\mu\text{m}$ .

5 [0077]

4. The transparent thin-film solar-cell module according to any one of claims 1 to 3, wherein the area ratio of the total area of the light-transmissive aperture holes to the area of the cell region is 5% to 30%.

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[0078]

5. The transparent thin-film solar-cell module according to any one of claims 1 to 4, wherein the light-transmissive aperture holes are disposed in a line parallel to the series-  
15 connection direction of the photoelectric conversion cells.

[0079]

6. The transparent thin-film solar-cell module according to any one of claims 1 to 5, wherein the light-transmissive  
20 aperture holes are disposed in lines parallel to each other at regular intervals.

[0080]

7. The transparent thin-film solar-cell module according to any one of claims 1 to 6, wherein a back sealer is composed  
25 of a fluorocarbon resin or glass.

[0081]

8. A method for producing the transparent thin-film solar-cell module according to claim 1, the method comprising forming the light-transmissive aperture holes by irradiating the multilayer film with laser light, wherein the distance 5 between the centers of adjacent light-transmissive aperture holes disposed in a straight line is determined by the frequency of Q-switching of the laser light and a relative scanning velocity between the transparent insulating substrate and the laser light.

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[0082]

9. A method for producing the transparent thin-film solar-cell module according to claim 1, the method comprising performing reverse-bias treatment after forming the light-15 transmissive aperture holes.